

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office 440 West 200 South, Suite 500 Salt Lake City, UT 84101 http://www.blm.gov/ut/st/en.html



IN REPLY REFER TO: 3120 LLUT922000

May 19, 2014

ERRATA SHEET

Color Country District Office Lease Parcels

This Errata Sheet amends the Notice of Competitive Lease Sale (NCLS) issued on February 14, 2014, for the competitive oil and gas lease auction to be held at the Bureau of Land Management (BLM) Utah State Office on May 20, 2014.

1. Lease notice UT-LN-56, as described below, has been applied to the following parcels:

UTU90320 (UT0514-003) – Lease Notice Change UT-LN-56 is added

UTU90322 (UT0514-005) – Lease Notice Change UT-LN-56 is added

UTU90323 (UT0514-006) – Lease Notice Change UT-LN-56 is added

UTU90327 (UT0514-011) – Lease Notice Change UT-LN-56 is added

UTU90328 (UT0514-012) – Lease Notice Change UT-LN-56 is added

UTU90329 (UT0514-013) – Lease Notice Change UT-LN-56 is added

UTU90334 (UT0514-023) – Lease Notice Change UT-LN-56 is added

UTU90336 (UT0514-035) – Lease Notice Change UT-LN-56 is added

UTU90342 (UT0514-053) – Lease Notice Change

UT-LN-56 is added

UTU90343 (UT0514-056) – Lease Notice Change UT-LN-56 is added

UTU90346 (UT0514-059) – Lease Notice Change UT-LN-56 is added

UTU90350 (UT0514-080) – Lease Notice Change UT-LN-56 is added

UTU90351 (UT0514-089) – Lease Notice Change UT-LN-56 is added

DRINKING WATER SOURCE PROTECTION

This lease (or a portion thereof) is within a public Drinking Water Source Protection zone. Before application for a permit to drill (APD) submittal or any proposed surface-disturbing activity, the lessee/operator must contact the public water system manager to determine any zoning ordinances, best management or pollution prevention measures, or physical controls that may be required within the protection zones. Drinking Water Source Protection plans are developed by the public water systems under the requirements of R309-600. Drinking Water Source Protection for Ground-Water Sources. (Utah Administrative Code). There may also be county ordinances in place to protect the source protection zones, as required by Section 19-4-113 of the Utah Code.

UT-LN-56

Incorporated cities and towns may also protect their drinking water sources using Section 10-8-15 of the Utah Code. This part of the Code gives cities and towns the extraterritorial authority to enact ordinances to protect a source of drinking water ... "For 15 miles above the point from which it is taken and for a distance of 300 feet on each side of such stream..." Class I cities (greater than 100,000 population) are granted authority to protect their entire watersheds.

Some public water sources qualify for monitoring waivers which reduce their monitoring requirements for pesticides and volatile organic chemicals (VOCs). Exploration, drilling, and production activities within Source Protection zone 3 could jeopardize these waivers, thus requiring increased monitoring. Contact the public water system to determine what effect your activities may have on their monitoring waivers. Please be aware of other State rules to protect surface and ground water: the Utah Division of Water Quality Rules R317 Water Quality Rules; and Rules of the Utah Division of Oil, Gas and Mining, Utah Oil and Gas Conservation Rules R649.

At the time of development, drilling operators will additionally conform to the operational regulations in Onshore Oil & Gas Order No. 2 (which requires the protection and isolation of all usable quality waters, $\leq 10,000 \,\Box 0,000$ til Dissolved Solids (TDS)) and Onshore Oil and Gas Order No. 7 (which prescribes measures required for the handling of produced water to insure the protection of surface and ground water sources).

2. An acreage change is made to the following parcels:

UTU90326

(UT0514-010)
T. 23 S., R. 1 W., Salt Lake
Sec. 15: All.
683.48 Acres
Sevier County, Utah
Richfield Field Office

UTU90328

(UT0514-012) T. 23 S., R. 1 W., Salt Lake

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Secs. 33 and 34: All;
Sec. 35: S2.
1,596.08 Acres
Sevier County, Utah
Richfield Field Office
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3. Due to a resurvey, a legal description and acreage change is made to the following parcel:

UTU90333

(UT0514-020)

T. 22 S., R. 2 W., Salt Lake

Sec. 13: Lots 1, 2, S2NW;

Sec. 14: N2, SW, W2SE;

Sec. 15: SE;

Sec. 22: All;

Sec. 23: W2NE, SENE, W2, SE;

Sec. 24: SWNW, NWSW.

2,158.50 Acres

Sevier County, Utah

Richfield Field Office

4. Due to potential land description problems identified during a land description sufficiency review performed by BLM Utah Cadastral Survey, the following parcels have been deferred in their entirety:

UTU90369 (UT0514-137)

U.S. Interest 50%

UTU90370 (UT0514-138)

U.S. Interest 50%

UTU90371 (UT0514-141)

U.S. Interest 50%

5. At the recommendation of the United States Fish and Wildlife Service, the following lease notices have been added to the following parcels:

UTU90318 (UT0514-001) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90319 (UT0514-002) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added

UTU90320 (UT0514-003) - Lease Notice Change

UT-LN-37 (as described below) is added

UTU90321 (UT0514-004) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90322 (UT0514-005) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90323 (UT0514-006) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90324 (UT0514-008) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90325 (UT0514-009) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), and T&E-19 (as described below) are added

UTU90326 (UT0514-010) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90327 (UT0514-011) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90328 (UT0514-012) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), and T&E-19 (as described below) are added

UTU90329 (UT0514-013) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90330 (UT0514-015) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90331 (UT0514-016) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90332 (UT0514-017) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90333 (UT0514-020) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90334 (UT0514-023) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), and T&E-19 (as described below) are added

UTU90335 (**UT0514-034**) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added

UTU90336 (UT0514-035) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90337 (UT0514-037) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90338 (UT0514-038) – Lease Notice Change

UT-LN-37 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90339 (UT0514-039) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added

UTU90340 (UT0514-043) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added

UTU90341 (UT0514-047) – Lease Notice Change

UT-LN-37 (as described below), and T&E-19 (as described below) are added

UTU90342 (UT0514-053) – Lease Notice Change

UT-LN-37 (as described below), UT-LN-113 (as described below), T&E-09 (as described below), and T&E-19 (as described below) are added

UTU90343 (UT0514-056) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added

UTU90344 (UT0514-057) – Lease Notice Change

UT-LN-37 (as described below) is added

UTU90345 (UT0514-058) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added UTU90346 (UT0514-059) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added

UTU90347 (UT0514-060) – Lease Notice Change

UT-LN-113 (as described below) is added

UTU90349 (UT0514-064) – Lease Notice Change

UT-LN-37 (as described below), and UT-LN-113 (as described below) are added

UTU90350 (UT0514-080) – Lease Notice Change

UT-LN-113 (as described below) is added

UTU90351 (UT0514-089) – Lease Notice Change

UT-LN-113 (as described below) is added

UTU90352 (UT0514-092) – Lease Notice Change

UT-LN-113 (as described below) is added

UTU90353 (UT0514-118) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), and T&E-14 (as described below) are added

UTU90354 (UT0514-120) – Lease Notice Change

T&E-09 (as described below), and T&E-16 (as described below) are added

UTU90355 (UT0514-121) – Lease Notice Change

UT-LN-113 (as described below), and T&E-09 (as described below) are added

UTU90356 (UT0514-122) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), and T&E-16 (as described below) are added

UTU90357 (UT0514-123) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90358 (UT0514-124) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90359 (UT0514-125) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90360 (UT0514-126) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90361 (UT0514-127) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90362 (UT0514-128) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90363 (UT0514-129) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90364 (UT0514-130) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90365 (**UT0514-132**) – Lease Notice Change

T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90366 (UT0514-133) – Lease Notice Change

T&E-09 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90367 (UT0514-135) – Lease Notice Change

UT-LN-113 (as described below), T&E-15 (as described below), and T&E-16 (as described below) are added

UTU90368 (**UT0514-136**) – Lease Notice Change

UT-LN-113 (as described below), T&E-09 (as described below), T&E-15 (as described below), T&E-16 (as described below), and T&E-17 (as described below) are added

UT-LN-37	BALD EAGLE HABITAT The lessee/operator is given notice that lands in this lease have been identified as containing Bald Eagle Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Bald Eagle and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, the Endangered Species Act, and 43 CFR 3101.1-2.
UT-LN-113	YELLOW-BILLED CUCKOO The lessee/operator is given notice that portions of this lease may be located within Yellow-Billed Cuckoo habitat and no surface-disturbing activities will be conducted within 100 meters of Yellow-billed Cuckoo habitat (riparian areas) from May 15th through July 20th.

UTAH PRAIRIE DOG

The lessee/operator is given notice that lands in this lease may contain historic and/or occupied Utah prairie dog habitat, a threatened species under the Endangered Species Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs when prairie dogs are active or hibernating. A temporary action is completed prior to the following active season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one activity/hibernation season and/or causes a loss of Utah prairie dog habitat or displaces prairie dogs through disturbances, i.e. creation of a permanent structure. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:

- 1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s).
- 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
- 3. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in prairie dog habitat.
- 4. Surface occupancy or other surface disturbing activity will be avoided within 0.5 mile of active prairie dog colonies.
- 5. Permanent surface disturbance or facilities will be avoided within 0.5 mile of potentially suitable, unoccupied prairie dog habitat, identified and mapped by Utah Division of Wildlife Resources since 1976.
- 6. The lessee/operator should consider if fencing infrastructure on well pad, e.g., drill pads, tank batteries, and compressors, would be needed to protect equipment from burrowing activities. In addition, the operator should consider if future surface disturbing activities would be required at the site.
- 7. Within occupied habitat, set a 25 mph speed limit on operator-created and maintained roads.
- 8. Limit disturbances to and within suitable habitat by staying on designated routes.
- 9. Limit new access routes created by the project.

Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

LAST CHANCE TOWNSENDIA (TOWNSENDIA APRICA)

T&E-14

In order to minimize effects to the federally threatened Last Chance Townsendia, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA).

T&E-09

For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Last Chance Townsendia; habitat descriptions can be found in Federal Register Notice and species recovery plan links at http://www.fws.gov/endangered/wildlife.html>. Occupied habitat is defined as areas currently or historically known to support Last Chance Townsendia; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:

- 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities (including ATV use) to determine if suitable Last Chance Townsendia habitat is present.
- 2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc.. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
 - a. Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,
 - b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
 - c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
 - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
 - e. Will be valid until April 15th the following year.
- 3. Design project infrastructure to minimize impacts within suitable habitat:
 - a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - b. Reduce well pad size to the minimum needed, without compromising safety,
 - c. Where technically and economically feasible, use directional drilling or multiple wells from the samepad,
 - d. Limit new access routes created by the project,
 - e. Roads and utilities should share common right-of-ways where possible,
 - f. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat.

- g. Place signing to limit off-road travel in sensitive areas, and
- h. Stay on designated routes and other cleared/approved areas,
- All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.
- 4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
 - a. Follow the above recommendations (#3) for project design within suitable habitats.
 - To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
 - c. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
 - d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only,
 - e. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - f. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - g. Construction activities will not occur from April 15th through June 5th within occupied habitat,
 - h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,
 - i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
 - j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.
 - 5. Occupied Last Chance Townsendia habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.
 - 6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Last Chance

Townsendia is anticipated as a result of project activities. Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA. WRIGHT FISHHOOK CACTUS (SCLEROCACTUS WRIGHTIAE) In order to minimize effects to the federally threatened Wright Fishhook Cactus, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Wright Fishhook Cactus; habitat descriptions can be found in Federal Register Notice and species recovery plan links http://www.fws.gov/endangered/wildlife.html>. Occupied habitat is defined as areas currently or historically known to support Wright Fishhook Cactus; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development: 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities (including ATV use) to determine if suitable Wright Fishhook Cactus habitat is present. T&E-15 Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories: Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols, Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower), c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,

Will be valid until April 15th the following year.

characteristics, and

d. Will include, but not be limited to, plant species lists and habitat

- 3. Design project infrastructure to minimize impacts within suitable habitat:
 - a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - b. Reduce well pad size to the minimum needed, without compromising safety,
 - c. Where technically and economically feasible, use directional drilling or multiple wells from the samepad,
 - d. Limit new access routes created by the project,
 - e. Roads and utilities should share common right-of-ways where possible,
 - f. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat.
 - g. Place signing to limit off-road travel in sensitive areas, and
 - h. Stay on designated routes and other cleared/approved areas,
 - i. All disturbed areas will be revegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.
- 4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
 - a. Follow the above recommendations (#3) for project design within suitable habitats,
 - To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
 - c. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
 - d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only.
 - e. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - f. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - g. Construction activities will not occur from April 15th through June 5th within occupied habitat,
 - h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,
 - i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
 - . Minimize the disturbed area of producing well locations through interim

and final reclamation. Reclaim well pads following drilling to the smallest area possible.

- 5. Occupied Wright Fishhook Cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.
- 6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Wright Fishhook Cactus is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

WINKLER PINCUSHION CACTUS (PEDIOCACTUS WINKLERI)

In order to minimize effects to the federally threatened Winkler Pincushion Cactus, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Winkler Pincushion Cactus; habitat descriptions can be found in Federal Register Notice and species recovery plan links at http://www.fws.gov/endangered/wildlife.html>. Occupied habitat is defined as areas currently or historically known to support Winkler Pincushion Cactus; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:

T&E-16

- 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities (including ATV use) to determine if suitable Winkler Pincushion Cactus habitat is present.
- 2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
 - a. Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,

- b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
- c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
- d. Will include, but not be limited to, plant species lists and habitat characteristics, and
- e. Will be valid until April 15th the following year.
- 3. Design project infrastructure to minimize impacts within suitable habitat:
 - a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - b. Reduce well pad size to the minimum needed, without compromising safety,
 - c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
 - d. Limit new access routes created by the project,
 - e. Roads and utilities should share common right-of-ways where possible,
 - f. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
 - g. Place signing to limit off-road travel in sensitive areas, and
 - h. Stay on designated routes and other cleared/approved areas,
 - i. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.
- 4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
 - a. Follow the above recommendations (#3) for project design within suitable habitats
 - To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
 - c. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
 - d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only,
 - e. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - f. Surface pipelines will be laid such that a 300' buffer exists between the

edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

- g. Construction activities will not occur from April 15th through June 5th within occupied habitat,
- h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,
- i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
- j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.
- 5. Occupied Winkler Pincushion Cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.
- 6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Winkler Pincushion Cactus is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

SAN RAFAEL CACTUS (PEDIOCACTUS DESPAINII)

In order to minimize effects to the federally threatened San Rafael Cactus, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain San Rafael Cactus; habitat descriptions can be found in Federal Register Notice and species recovery plan links http://www.fws.gov/endangered/wildlife.html>. Occupied habitat is defined as areas currently or historically known to support San Rafael Cactus; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities

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- (including ATV use) to determine if suitable San Rafael Cactus habitat is present.
- 2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
 - a. Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,
 - b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
 - c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
 - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
 - e. Will be valid until April 15th the following year.
- 3. Design project infrastructure to minimize impacts within suitable habitat:
 - a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - b. Reduce well pad size to the minimum needed, without compromising safety,
 - c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
 - d. Limit new access routes created by the project,
 - e. Roads and utilities should share common right-of-ways where possible,
 - f. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
 - g. Place signing to limit off-road travel in sensitive areas, and
 - h. Stay on designated routes and other cleared/approved areas,
 - All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.
- 4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
 - a. Follow the above recommendations (#3) for project design within suitable habitats,
 - b. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is

- encouraged,
- c. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
- d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only,
- e. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat.
- f. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
- g. Construction activities will not occur from April 15th through June 5th within occupied habitat,
- h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,
- i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
- j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.
- 5. Occupied San Rafael Cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.
- 6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the San Rafael Cactus is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

JONES CYCLADENIA (CYCLADENIA HYMILIS VAR JONESII)

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In order to minimize effects to the federally threatened Jones Cycladenia, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: *Potential*

habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Jones Cycladenia; habitat descriptions can be found in Federal Register Notice and species recovery plan links at http://www.fws.gov/endangered/wildlife.html. Occupied habitat is defined as areas currently or historically known to support Jones Cycladenia; synonymous with "known habitat." The following avoidance and minimization measures should be included in the Plan of Development:

- 1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat¹ prior to any ground disturbing activities (including ATV use) to determine if suitable Jones Cycladenia habitat is present.
- 2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories:
 - a. Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,
 - b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15th to June 5th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
 - c. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,
 - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
 - e. Will be valid until April 15th the following year.
- 3. Design project infrastructure to minimize impacts within suitable habitat:
 - a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - b. Reduce well pad size to the minimum needed, without compromising safety,
 - c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,
 - d. Limit new access routes created by the project,
 - e. Roads and utilities should share common right-of-ways where possible,
 - f. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,
 - g. Place signing to limit off-road travel in sensitive areas, and

- h. Stay on designated routes and other cleared/approved areas,
- All disturbed areas will be revegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.
- 4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
 - a. Follow the above recommendations (#3) for project design within suitable habitats.
 - To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,
 - c. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,
 - d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15th to June 5th (flowering period); dust abatement applications will be comprised of water only,
 - e. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat.
 - f. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,
 - g. Construction activities will not occur from April 15th through June 5th within occupied habitat,
 - h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,
 - i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and
 - j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.
- 5. Occupied Jones Cycladenia habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.
- 6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Jones Cycladenia is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in
consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

Please direct any questions regarding this Errata Sheet to Justin Abernathy, Fluid Minerals Leasing Coordinator, at 801-539-4067.

/s/ Kent Hoffman

Kent Hoffman Deputy State Director Division of Lands and Minerals